


**List of Claims:**

**Claim 1 (Currently Amended):** A complementary metal oxide semiconductor (CMOS) device ~~with an integrated photosensitive junction field-effect transistor (JFET), the device~~ comprising:

a silicon substrate;

 a junction field-effect transistor (JFET) formed on a surface of the silicon substrate, the JFET including a photo-absorbing layer formed on the surface of the silicon substrate; and

an overglass layer formed over the JFET adapted to admit photons to the photo-absorbing layer of the JFET,

wherein the JFET detects incident photons admitted through the overglass layer and produces an amplified electrical signal corresponding to the photons detected.

**Claim 2 (Currently Amended):** A The CMOS device as in claim 1, wherein the JFET provides a relatively low corner frequency.


**Claim 3 (Currently Amended):** A The CMOS device as in claim 1, wherein an input referred noise of the JFET is relatively low.

**Claim 4 (Currently Amended):** A complementary metal oxide semiconductor (CMOS) active pixel sensor (APS) pixel supported on a substrate, the CMOS APS pixel comprising:

a junction field-effect transistor (JFET) adapted to detect photons and produce an amplified electrical signal corresponding to the photons detected; and

a readout switch transistor coupled to a drain terminal of the JFET.

**Claim 5 (Currently Amended):** A The CMOS APS pixel as in claim 4, wherein a source terminal of the readout switch transistor is connected to a bus and a resistor, forming a source follower circuit.

 **Claim 6 (Currently Amended):** A The CMOS APS pixel as in claim 4, further comprising:

a first resistor connected between a gate terminal of the JFET and a drain terminal of the readout switch transistor; and

a second resistor connected between a source terminal of the JFET and the drain terminal of the readout switch transistor, wherein the first and second resistors provide positive feedback and laser trimmability, and

wherein a source terminal of the readout switch transistor is connected to a bus and a current source, forming a source follower.

**Claim 7 (Currently Amended):** A The CMOS APS pixel as in claim 4, wherein the JFET is contained in a differential amplifier circuit.

**Claim 8 (Currently Amended):** A digital camera, comprising:

a complementary metal oxide semiconductor (CMOS) active pixel sensor (APS) imager providing image data, the imager comprising:

an array of CMOS APS pixels comprising a plurality of junction field-effect transistors (JFETs) adapted for photodetection and electrical signal amplification.

**Claim 9 (Currently Amended):** A The digital camera as in claim 8, the array of CMOS APS pixels comprising:

a silicon substrate;

a JFET formed on the surface of the silicon substrate comprising:

a photo absorbing layer formed on a the surface of the silicon substrate;

an overglass layer formed over the JFET adapted to admit photons to the photo-absorbing layer of the JFET

wherein the JFET detects incident photons admitted through the overglass layer and produces an amplified electrical signal corresponding to the photons detected.

**Claim 10 (Currently Amended):** A The digital camera as in claim 8, the CMOS APS pixels further comprising:

a readout switch transistor coupled to a drain terminal of the JFET.

**Claim 11 (Currently Amended):** A The digital camera as in claim 10, wherein a source terminal of the readout switch transistor is connected to a bus and a resistor, forming a source follower circuit.

**Claim 12 (Currently Amended):** ~~A~~ The digital camera as in claim 10, wherein each

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*can* JFET of the plurality of JFETs is contained in a differential amplifier circuit.

**Claims 13-19 (Cancelled)**

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